

IN THE CLAIMS:

On page 6, line 1, cancel "Paten Claims" and substitute –WE CLAIM AS OUR INVENTION:– therefor.

Claims 1-9 have been cancelled.

5 1-9. (Cancelled)

Add the following new claims.

10. (New) A gradient coil system for a magnetic resonance apparatus, comprising:

10 a plurality of assembled components including an electrical conductor arrangement; and
 said electrical conductor arrangement including conductors comprised of radiation-sintered metal powder material.

15 11. (New) A gradient coil system as claimed in claim 10 wherein said metal powder material is selected from the group consisting of copper powder and aluminum powder.

12. (New) A gradient coil system as claimed in claim 10 wherein said plurality of components also includes insulation and cooling devices, and wherein said conductor arrangement is cast with epoxy resin with at least one other component in said plurality of components.

20 13. (New) A gradient coil system as claimed in claim 10 wherein said conductor arrangement comprises hollow conductors for conveyance of a coolant medium therethrough.

25 14. (New) A method for manufacturing a gradient coil system for a magnetic resonance apparatus, said gradient coil system comprising a plurality of components including a conductor arrangement, comprising the steps of :

producing said conductor arrangement by successively applying
respective layers of metal powder sinter material on a workpiece
platform and successively sintering the respective layers by
application of radiation to the individual layers in succession;
5 and

assembling said conductor arrangement with other components in said
plurality of components to produce said gradient coil system.

15. (New) A method as claimed in claim 14 comprising sintering
said metal powder sinter material with laser radiation.

10 16. (New) A method as claimed in claim 14 comprising generating a
three-dimensional design plan for said conductor arrangement and dividing
said three-dimensional design plan into conductor paths respectively disposed
in said layers.

15 17. (New) A method as claimed in claim 14 comprising additionally
generating, by said sintering, at least one removable web between respective
portions of said conductor arrangement.

20 18. (New) A method as claimed in claim 14 wherein the step of
assembling said components to form said gradient coil system comprises
casting said plurality of components in a casting mold, and comprising
sintering at least one adjustment element, when sintering said conductor
arrangement, that automatically adjusts said conductor arrangement in said
casting mold.

25 19. (New) A method as claimed in claim 14 wherein one of said
plurality of components is insulation, and wherein the step of assembling said
components comprises casting said conductor arrangement together with said
insulation in a casting mold.

20. (New) A method as claimed in claim 14 wherein one of said plurality of components is cooling device, and wherein the step of assembling said components comprises casting said conductor arrangement together with said cooling device in a casting mold.